

26.11.30 Control of Portland Cement Manufacturing Plants

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

.01 Scope.

This chapter contains all of the general requirements that apply to Portland cement manufacturing plants. New or modified cement plants may be subject to more restrictive requirements that are included in a permit issued by the Department. Portland cement manufacturing plants subject to this chapter may also be subject to federal New Source Performance Standards under 40 CFR Part 60, Subpart F, and National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry under 40 CFR Part 63, Subpart LLL.

.02 Applicability.

A. The requirements of this chapter apply to cement kilns and other installations located at Portland cement manufacturing plants.

B. Any source which is subject to the provisions of this chapter may also be subject to the provisions of any other chapter. However, when this chapter establishes an emission standard for a specific installation which differs from the general emission standards in COMAR 26.11.06.01—.09, this chapter takes precedence.

.03 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) "Cement kiln" means an installation, including any associated pre-heater or pre-calciner devices, that produces clinker by heating limestone and other materials to produce Portland cement.

(2) "Cement manufacturing installation" means process equipment used for subsequent production of Portland cement.

(3) "Clinker cooler" means an installation into which clinker product leaving the kiln is placed to be cooled by air supplied by a forced air draft or natural draft supply system.

(4) "Long dry kiln" means a cement kiln that does not have a pre-calciner and in which dry starting raw materials are fed into the kiln.

(5) "PM continuous parametric monitoring system" (CPMS) means a continuous emission monitoring system used to establish a parameter range for the purposes of demonstrating compliance.

(6) "Pre-calciner kiln" means a cement kiln that contains a pre-calciner at the bottom of the pre-heater tower before the materials enter the kiln.

(7) “30-day rolling average” means the arithmetic average of all valid hourly NO_x emission rates of the previous 720 valid hours on a rolling basis.

(8) “30 process operating day” means:

(a) The first day after the compliance date following completion of the field testing and data collection that demonstrates that the CPMS or CEMS has satisfied the relevant CPMS performance evaluation or CEMS performance specification acceptance criteria; and

(b) For purposes of this chapter, the performance test period is complete at the end of the 30th consecutive operating day.

.04 Particulate Matter.

A. The owner or operator of a cement manufacturing installation may not cause or permit the discharge of emissions of particulate matter to exceed the limits in §B of this regulation.

B. Emission Limits.

(1) Areas I, II, V, and VI. In Areas I, II, V, and VI, a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.05 grains per standard cubic foot dry.

(2) Areas III and IV. In Areas III and IV, a person may not cause or permit particulate matter to be discharged from any installation in excess of 0.03 grains per standard cubic foot dry.

(3) Compliance with the particulate matter standards of §B(1) and (2) of this regulation shall be demonstrated by a 3-run stack test using Method 5 or Method 5I of 40 CFR Part 60.

C. Particulate Matter Monitoring Requirements for Cement Kilns and Clinker Coolers. On or after September 1, 2016, the owner or operator of a cement kiln or clinker cooler at a Portland cement manufacturing plant shall:

(1) Use a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit corresponding to the results of the performance test as required in §B(3) of this regulation demonstrating compliance with the PM limits in §B(1) and (2) of this regulation;

(2) Conduct the performance test as required in §B(3) of this regulation using Method 5 or Method 5I of 40 CFR part 60;

(3) Use the PM CPMS to demonstrate continuous compliance with the site-specific operating parameter limit established in §C(1) of this regulation;

(4) Repeat the performance test as required in §B(3) of this regulation annually and reassess and adjust the site-specific operating parameter limit of §C(1) of this regulation in accordance with the results of the performance test using the procedures in 40 CFR §63.1349(b)(1)(i)—(ix); and

(5) Follow the procedures in 40 CFR §63.1350(b)(iii) and (iv) for any exceedance of the established operating parameter limit of §C(1) of this regulation on a 30 process operating day basis.

.05 Visible Emission Standards.

A. The owner or operator of a cement manufacturing installation may not cause or permit the discharge of emissions which exceed the visibility standards in §B of this regulation.

B. Visibility Standards.

(1) In Areas I, II, V, and VI a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity.

(2) In Areas III and IV a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers.

(3) Compliance with the visibility standards of §B(1) and (2) of this regulation shall be demonstrated by a visible emission observation using Method 9 of 40 CFR Part 60.

C. Visible Emission Monitoring Requirements for Cement Kilns. The owner or operator of a cement kiln at a Portland cement manufacturing plant shall either:

(1) Use a COM in accordance with the requirements of COMAR 26.11.01.10; or

(2) Use a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit for continuous visible emission compliance determinations in accordance with Regulation .04C of this chapter.

D. Visible Emission monitoring requirements for clinker coolers. On or after September 1, 2016, the owner or operator of a clinker cooler at a Portland cement manufacturing plant shall either:

(1) Use a COM in accordance with the requirements of COMAR 26.11.01.10; or

(2) Use a PM continuous parametric monitoring system (CPMS) to establish a site-specific operating parameter limit for continuous visible emission compliance determinations in accordance with Regulation .04C(1)—(5) of this chapter.

.06 Sulfur Compounds.

A. Sulfur Dioxide (SO₂).

(1) Areas I, II, V, and VI. In Areas I, II, V, and VI, an owner or operator of a cement manufacturing installation may not cause emissions into the atmosphere with an SO₂ concentration greater than 2,000 ppm for sources constructed before January 17, 1972, or 500 ppm for sources constructed on or after January 17, 1972.

(2) Areas III and IV. In Areas III and IV, an owner or operator of a cement manufacturing installation may not cause emissions into the atmosphere with an SO₂ concentration greater

than 2,000 ppm for sources constructed before February 21, 1971, or 500 ppm for sources constructed on or after February 21, 1971.

B. Sulfuric Acid and Sulfur Trioxide.

(1) Areas I, II, V, and VI. In Areas I, II, V, and VI, an owner or operator of a cement manufacturing installation may not cause emissions of sulfuric acid, sulfur trioxide, or any combination of them, in excess of 70 milligrams per cubic meter reported as sulfuric acid, for any source constructed before January 17, 1972, or 35 milligrams per cubic meter reported as sulfuric acid, for any source constructed on or after January 17, 1972.

(2) Areas III and IV. In Areas III and IV, an owner or operator of a cement manufacturing installation may not cause emissions of sulfuric acid, sulfur trioxide, or any combination of them, in excess of 70 milligrams per cubic meter reported as sulfuric acid for any source constructed before February 21, 1971, or 35 milligrams per cubic meter reported as sulfuric acid for any source constructed on or after February 21, 1971.

C. All calculations of emissions for §§A and B of this regulation shall be adjusted to standard conditions and 7 percent oxygen.

.07 Nitrogen Oxides (NO_x).

A. A person who owns or operates a cement kiln at a Portland cement manufacturing plant shall meet the following applicable NO_x emission standards:

- (1) For long dry kilns, maximum emissions of 5.1 pounds of NO_x per ton of clinker produced; and
- (2) For pre-calciner kilns, maximum emissions of 2.8 pounds of NO_x per ton of clinker produced.

B. On and after April 1, 2017, the requirements in §A of this regulation no longer apply and cement kilns shall meet the applicable NO_x emission standards in §C of this regulation.

C. On and after April 1, 2017, a person who owns or operates a cement kiln at a Portland cement manufacturing plant shall meet the following applicable NO_x emission standards:

- (1) For long dry kilns, maximum emissions of 3.4 pounds of NO_x per ton of clinker produced; and
- (2) For pre-calciner kilns, maximum emissions of 2.4 pounds of NO_x per ton of clinker produced.

D. Compliance with the emission standards in §§A and C of this regulation shall be demonstrated as a 30-day rolling average.

.08 NO_x Continuous Emission Monitoring Requirements.

A. The owner or operator of a Portland cement manufacturing plant shall:

- (1) Continuously monitor NO_x emissions with a continuous emissions monitor (CEM) system in accordance with COMAR 26.11.01.11B(1) and (4) and C;
- (2) Collect NO_x emissions data that was obtained pursuant to §A(1) of this regulation; and

(3) Submit emissions data collected pursuant to §A(2) of this regulation to the Department as specified under COMAR 26.11.01.11E(2).

B. The NO_x emissions data collected pursuant to §A(2) of this regulation shall be used to demonstrate compliance with the applicable NO_x emission rate in Regulation .07 of this chapter